

Session Program

27-30 Aug 2015

MLHEP 2015 summer school

Introductory track

Academic University
Khlopin st, 8, Saint Petersburg, Russia

Thursday 27 August

09:40

Introductory track: lectures

Session | **Location:** Academic University, 204 | **Convener:** Alexey Rogozhnikov

09:40–11:00 **Intro: General pipeline, ML at a glance**

11:00–11:20 **coffee break**

12:40

11:20–12:40 **Intro: kNN, basic overfitting, roc curve, logistic regression**

13:45

Introductory track: seminars

Session | **Location:** Academic University, 204, Khlopin st, 8, Saint Petersburg, Russia | **Convener:** Nikita Kazeev

13:45–15:15 **Introduction, course technicalities**

15:15–15:40 **coffee break**

17:10

15:40–17:10 **NumPy, Pandas, Matplotlib**

Friday 28 August

09:30

Introductory track: lectures #2

Session | **Location:** Academic University, 204, Khlopin st, 8, Saint Petersburg, Russia | **Convener:** Alexey Rogozhnikov

09:30–10:50 **neural networks**

10:50–11:10 **coffee break**

11:10–12:30 **decision tree, regression tree**

12:30

13:45

Introductory track: seminars #2

Session | **Location:** Academic University, 204, Khlopin st, 8, Saint Petersburg, Russia | **Convener:** Nikita Kazeev

13:45–15:15 **Overfitting, Cross-validation**

15:15–15:40 **coffee break**

15:40–17:10 **Sklearn: KNN, decision tree, logistic regression**

17:10

Saturday 29 August

09:30

Introductory track: lectures #3

Session | **Location:** Academic University, 204, Khlopin st, 8, Saint Petersburg, Russia | **Convener:** Alexey Rogozhnikov

09:30–10:50 **Ensembles**

10:50–11:10 **coffee break**

11:10–12:30 **Gradient boosting; boosting to uniformity.**

12:30

13:45

Introductory track: seminars #3

Session | **Location:** Academic University, 204, Khlopin st, 8, Saint Petersburg, Russia | **Convener:** Nikita Kazeev

13:45–15:15 **Ensemble algorithms: random forest, gradient boosting**

15:15–15:40 **coffee break**

15:40–17:10 **Hyperparam Optimization**

17:10

Sunday 30 August

09:00

Introductory track: lectures #4

Session | **Location:** Academic University, 204 | **Convener:** Alexey Rogozhnikov

09:00–10:20

GBDT tuning, reweighting, testing hypotheses, gaussian processes for optimization

10:20–10:40

coffee break

10:40–12:00

Unsupervised learning, Latent Dirichlet Allocation, PCA. Fast predictions and pruning

12:00

13:00

Introductory track: seminars #4

Session | **Location:** Academic University, 204, Khlopin st, 8, Saint Petersburg, Russia | **Convener:** Nikita Kazeev

13:00–14:30

PCA, RBM and alike on MNIST

14:30–14:45

coffee break

14:45–16:15

Clustering

16:15